

**Client:**

Badan Rehabilitasi & Rekonstruksi  
BRR NAD-NIAS

**Stakeholders:**

DINAS SDA-Prop / BRR Regional,  
DPJSDA, Kota Lhokseumawe. Dinas  
Kebersihan & Pertamanan Kota, local  
community

**Location:**

Banda Sakti

**Mitigating measures:**

Cleaning and improvement of existing  
drains, Enlarging of existing drains  
Re-division of catchments  
Construction of new drains,  
Construction of reservoir with tidal  
gates, Construction of interceptor sewer  
with pumping station

**Estimated budget:**

Rp. 110 billion  
US\$: 12 million  
(Excl. Land acquisition)

**Planning:**

Completion design: Sept. 2007  
Completion tender doc's: Okt. 2007  
Start construction: 2008



*Flooding in Banda Sakti*

**For further information:**

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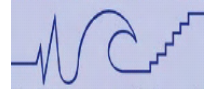
## Kota Lhokseumawe (Banda Sakti)



### Existing situation

The urban area of Lhokseumawe (Banda Sakti) is an island surrounded by water and is connected to the main land by two bridges. Part of the Banda Sakti area of Lhokseumawe is below High Sea Level. Only during low tide, water can be discharged by gravity to the Teluk Pusong in the south and the Krueng Cunda in the west of Banda Sakti. During high tide Banda Sakti becomes temporarily a polder (an area below sea level that is kept dry by embankments and drainage) and the sillage and rain water is stored in three reservoirs (also named 'tando').

These tando's and the drainage system have to be pumped out during high tide.



*Flooding in Banda Sakti*

## Performance existing system

Due to the urbanization the capacity of the existing drainage system became insufficient to cope with typical tropical rains. Hence, flooding occurs regularly in an area covering 250 ha, which in turn places a heavy burden on people living in this area and causes damage to roads, shops and houses. The main problem is that the existing drains, reservoirs and pump installations have insufficient capacity to store and/or discharge rain water.



*Flooding in Banda Sakti*

## Improvement works

### 1. Construction of a reservoir of 60 ha in the Teluk Pusong

The drainage problem in Lhokseumawe will be solved according to the guidelines with a return period of 5 year by improving the drainage system and creating a storage basin with a surface of about 60 ha. This will be done by closing the Teluk Pusong from the sea with a dike and tidal gates, thus creating a basin in which the water level can be controlled and is no longer influenced by tidal variations. Excess water within the city will easily drain into the newly created storage basin by gravity. During low tide the temporary stored water in the basin will be discharged by gravity through five tidal gates.

### 2. Construction interceptor main with pumping station

To avoid bad water quality in the reservoir during dry periods the sillage will be intercepted from the outlets by a collector drain of the drainage system to the reservoir. The collector drain brings the sillage to a small pump and discharges into the wastewater in the Kr. Cunda. It may in the future optionally to be treated in a waste water treatment plant. The treatment plant is not included in this project.



*Garbage in Main drains*

### 3. Construction of 3 new main drains to Teluk Pusong

To discharge all the water from Banda Sakti to the Teluk Pusong according to the design guidelines of a 5 year return period the existing drains have to be widened and three new main drains will be constructed. The present pumping stations and tando's are no longer required and can be demolished.



### 4. Upgrading drains in the commercial zone of Tando III

These drain improvement is part of the outline plan and DED Sistem penyediaan Air minum, Air Limbah, Drainase dan Persampahan Pantai Timur di Provinsi NAD 2006